IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:
Lester F. LUDWIG

Serial No.: 10/683,915

Filed: October 10, 2003

For: CONTROLLING AND ENHANCING ELECTRONIC MUSICAL INSTRUMENTS WITH VIDEO

Art Unit: 2837

Examiner: Marlon T. FLETCHER

Conf. No.: 3056

REPLY BRIEF

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

This reply brief is submitted responsive to the Examiner Answer filed October 1, 2009. The filing of this Reply Brief is timely, the time for response being December 1, 2009. Accordingly, appellant submits the following:

1. Overview

Appellant has carefully reviewed the various points set forth in the Examiner's Answer and submits that there remain a number of clear errors in the Examiner's rejections for which the appellant seeks review by the Board. Appellant will now address the various points raised by the Examiner.

2. Preliminary Comments

The appellant wishes to advise the Board of Patent Appeals and Interferences that application 09/812,400 has a decision rendered by the Board on November 13, 2009. This application is a parent application to the instant application, and was before the same examiner.

3. Background

In the Appeal Brief, the appellant has argued that the cited reference, Kimpara, does not teach all the elements of independent claims 25 and 44, namely "at least one outgoing control signal comprising at least one of a MIDI continuous controller message and a MIDI note message." Kimpara teaches only that tempo data is transmitted to a MIDI device. See, Kimpara, col. 4: 27-47 ("In the step S6, a tempo control signal or its data are generated based on 35 data of above time difference in the step S6. ... the tempo data of MIDI (Musical Instrument Digital Interface) standard are to be outputted to MIDI device. Meanwhile, it is possible to use this performance tempo control apparatus as a tempo generator of automatic performance apparatus by outputting the tempo clock itself.")

The Examiner has rejected claims 25 and 44 by stating that "Kimpara et al. inherently discloses at least one outgoing control signal comprising a signal of MIDI format at least one of a MIDI continuous controller message and a MIDI note message."

4. Examiner's Clarification

Section 10, Response to Argument, of the Examiner's Answer clarifies that the Examiner has the following positions:

A. "MIDI is an electronic standard used for transmission of digitally encoded music, wherein the transmission includes a controller message for controlling an instrument, which includes a note message."

B. "Kimpara et al. disclose tempo control which directly relates to the distribution of notes, wherein the tempo directly affects the note output; thereby controlling the rate at which the note is produce."

C. "[T]he Tempo control signal inherently teaches a MIDI Continuous Controller or a MIDI Note message."

D. "[T]he MIDI data includes a note message and timing data for controlling note generation, wherein the tempo of timing relates to a continuous controller message."

Each of the Examiner's positions will be examined in turn.

5. "MIDI ... controller message ... includes a note message"

A MIDI continuous controller message can be used to provide information relating to the position of a user control such as a rotary knob, slider control, or a foot pedal (organ volume pedal, guitar wah-wah pedal, etc.). Such a user control is often used to set the overall volume, left-right balance, or the like. A continuous controller message is sent whenever the position of the user control changes, and not when a particular note is played. In contrast, a MIDI note message comprises an ON/OFF indication together with a tone value (one of 128 values) of the note to be played and a key-travel velocity. The note message is sent whenever the note is changed between on or off, and when the MIDI note message is sent is dependent upon the music that is being played (for example, on a keyboard) and not upon the position of a rotary knob or slider control.

The Examiner is incorrect when asserting that a controller message includes a note message. A continuous controller message is not related to the generation of a note, and a note message does not relate to the position of a rotary knob or a slider control. For at least this reason, a continuous controller message does not include a note message.

6. "Kimpara et al. disclose tempo control which … directly affects the note output"

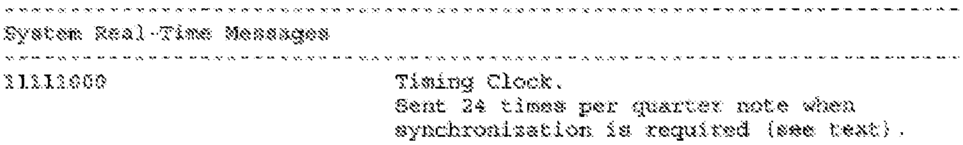
A MIDI tempo control is a message that may be generated by a periodic clock that may be controlled by a user control or may vary in response to an external input such as, in the case of Kimpara, a control signal generated by a video processor operating on an incoming video signal. A MIDI tempo control message synchronizes the internal timing clock within an external device. Examples of such external devices include music sequencers, electronic rhythm drum machines, audio play-back of audio recordings, and strobe lights.

A MIDI tempo message contains and provides no information about specific notes. Thus sending a MIDI tempo message is completely different from sending a MIDI note message which, in contrast, does provide information about specific notes.

For at least this reason, the Examiner errs by stating that Kimpara teaches a "tempo control which … directly affects the note output."

7. "[T]he Tempo control signal inherently teaches a MIDI Continuous Controller or a MIDI Note message."

As discussed above, a MIDI tempo control signal is not a note ON/OFF message, nor any other type of note ON/OFF message, or does it contain any type of note ON/OFF message or signal. The MIDI tempo control signal is a real-time systems message that is sent 24 times for each quarter note. (*See*, MIDI Specification, Table 1, Appeal Brief, Appendix A.)



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--------------------------------------------------------------------------------
System Real-Time Messages
--------------------------------------------------------------------------------
11111000                      Timing Clock.
                              Sent 24 times per quarter note when
                              synchronisation is required (see text).
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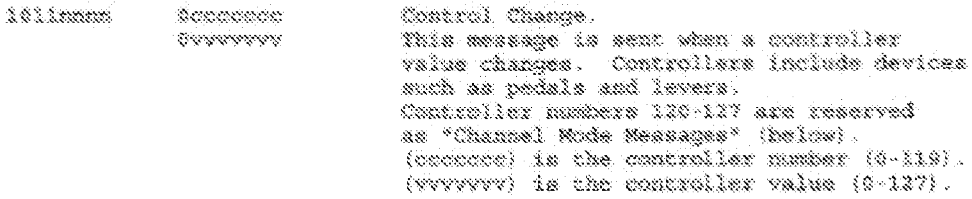
Also, as discussed supra, a MIDI continuous controller signal provides a value relating to a current position of a user control such as a rotary knob or a slide controller, and is sent each time the MIDI continuous controller is manually changed. While a user control may be used to control a tempo, it is not a tempo control signal as determined by the MIDI Specification. Therefore, a MIDI tempo control signal does not inherently teach a MIDI continuous controller or a MIDI note message.

8. "The tempo of timing relates to a continuous controller message."

The Examiner is incorrect when he states that timing relates to a continuous controller message. As explained above, the MIDI tempo message is sent 24 times within the duration of each quarter note. A MIDI continuous controller signal provides a value relating to the current position of a user control, and further does not provide a repetitive signal similar to a timing or clock signal. As seen in the MIDI Specification, Table 1, the MIDI continuous control message instead provides a value relating to the position of the user control, not the repetitive signal demanded by the definition of the MIDI tempo message.



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1011nnnn      0ccccccc        Control Change.
              0vvvvvvv        This message is sent when a controller
                              value changes.  Controllers include devices
                              such as pedals and levers.
                              Controller numbers 120-127 are reserved
                              as "Channel Mode Messages" (below).
                              (ccccccc) is the controller number (0-119).
                              (vvvvvvv) is the controller value (0-127).
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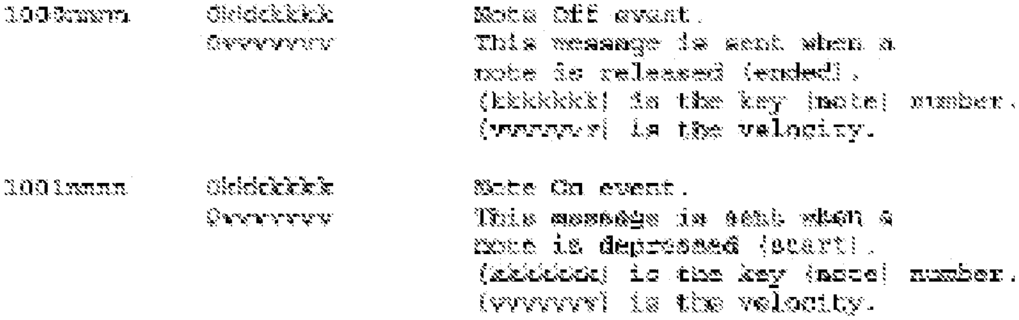
Note that a MIDI tempo message additionally does not provide any value fields required to carry the value information required by MIDI continuous control messages. Rather the MIDI tempo message is a valueless message that is used to set the underlying beat for an external system that produces its own notes or other timed activity (playback rate, strobe flash rate, etc.) driven by the external system’s own internal clock.

The Examiner further states “the tempo relates directly to the notes wherein the MIDI data includes a note message and timing data for controlling note generation” (Examiner’s Answer, p. 9). This is an incorrect statement. A note is generated when a MIDI note ON message is transmitted and terminates when a MIDI note OFF message is transmitted. (*See*, MIDI Specification, Table 1, Appeal Brief, Appendix A.)



1000nnnn	0kkkkkkk 0vvvvvvv	Note Off event. This message is sent when a note is released (ended). (kkkkkkk) is the key (note) number. (vvvvvvv) is the velocity.
1001nnnn	0kkkkkkk 0vvvvvvv	Note On event. This message is sent when a note is depressed (start). (kkkkkkk) is the key (note) number. (vvvvvvv) is the velocity.

Thus a MIDI tempo message does not control the duration of a note that was previously turned on by a transmitted MIDI note ON message. Rather, the duration is controlled by when the MIDI note OFF message is transmitted. If a MIDI note ON message is transmitted followed by a MIDI tempo message or a sequence of MIDI tempo messages, the note would remain on until the MIDI note OFF message was received at a later time. In the opposite situation, in a system receiving MIDI tempo information, no MIDI note information is even sent.

The Examiner further states “the tempo is normally controlled by some type of knob which by appellant's notes categorizes the tempo as a continuous controller element.” The MIDI Specification does not require that the timing signal be adjusted by any particular type of user control or device. In fact, often the timing signal is generated by software applications controlled by values in stored data rather than a user control. Again, a MIDI tempo message is a periodic timing signal providing no value information within it whereas a MIDI continuous control message is a completely separate type of message, not required or needed in any way to accompany a MIDI tempo message, and which further explicitly provides a numeric value relating to the position of the user control device. In this stark contrast, the MIDI tempo message carries timing information via its rate of repetition, while a MIDI continuous controlled message carries value information within the symbols of the message itself.

Thus the MIDI tempo message cannot be recategorized as a MIDI continuous controller message merely because in some implementations the MIDI tempo message repetition rate may be controlled by a user control.

For at least these reasons, the Examiner errs when he states "the tempo of timing relates to a continuous controller message."

9. Kimpara fails to anticipate rejected claims under 35 U.S.C. §102(b)

The Examiner has rejected independent claims 25 and 44 stating that Kimpara that "Kimpara et al. inherently discloses at least one outgoing control signal comprising a signal of MIDI format at least one of a MIDI continuous controller message and a MIDI note message." The appellant has argued in the Appeal Brief and this Answer Brief that even if the Examiner has properly asserted inherency, his reasoning is incorrect and that Kimpara's teaching of the tempo control signal does not imply that at least one of a MIDI continuous controller message or a MIDI note message is inherent in the tempo control signal.

In view of these arguments, the appellant urges the Board of Patent Appeals and Interferences to reject the Examiner's position that Kimpara's tempo control signal inherently teaches at least one of a MIDI continuous controller message or a MIDI note message. If the Examiner's position is rejected, then Kimpara does not anticipate independent claims 25 and 44.

10. Claims currently in condition for allowance

As set forth in MPEP 2131, to anticipate a claim, the reference must teach every element of the claim. Since, as discussed the appellant's Appeal brief and this Reply Brief, every element of independent claims 25 and 44 is not taught by Kimpara, appellant submits that the Examiner has not shown these claims are anticipated by Kimpara.

Appellant has demonstrated a number of errors in the rejections of independent claims 25 and 44 and that claims 25 and 44 are patentable. Dependent claims 26-43 and 46-62 are patentable as well by virtue of dependence on a patentable independent claim. Appellant therefore submits that the identified rejections are improper and that the identified claims are allowable over the asserted references. Appellant respectfully requests that the Board of Patent Appeals and Interferences reverse the decision rejecting the identified claims and direct the Examiner to pass the case to issue.

Respectfully submitted,

Date: December 1, 2009 By: /C.W. Schmoyer/

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